

IP Executable Spec Instructions

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Dependencies

- 1) GCC (or equivalent C compiler)
- 2) make
- 3) `ipv4_to_udp.c`, `udp_to_ipv4.c`, and the included Makefile
- 4) Hex reader such as `xxd` to see output

Note: Tested on Ubuntu 14.04, grey highlights represent commands in terminal

Instructions

To build and run **ipv4_to_udp.c** (representing IP_RX module):

- 1) `make to_udp`
 - a. To build without make: `gcc ipv4_to_udp.c -o itu`
- 2) `./itu <input_file> <output_file>`
 - a. *input_file* represents the path to a file with only IPv4 UDP packets
 - b. *output_file* represents the filename of the UDP payload output
 - c. Example: `./itu ipv4_udp.bin udp.bin`

To build and run **udp_to_ipv4.c** (representing IP_TX module):

- 1) `make from_udp`
 - a. To build without make: `gcc udp_to_ipv4.c -o uti`
- 2) `./uti <input_file> <output_file>`
 - a. *input_file* represents the path to a file with only UDP packets
 - b. *output_file* represents the filename of the IPv4 UDP packets output
 - c. Example: `./uti udp.bin ipv4_udp.bin`

To scroll through file output:

- 1) `xxd udp.bin | less`

Notes

- 1) The code uses no external libraries so it should be portable to other systems and can be built and run as easily as a helloworld C example
- 2) For IP_RX which `ipv4_to_udp.c` represents, protocol byte is output first followed by source and destination address followed by the UDP packet
- 3) For IP_TX which `udp_to_ipv4.c` represents, source and destination address are expected followed by protocol followed by the UDP packet (note different position of protocol)